

# CLAIMS

What is claimed is:

- 1 1. A process for producing alkaline earth metal salicylates comprising the steps of:  
2 A) alkylating salicylic acid with a linear  $\alpha$ -olefin comprising at least 14 carbon  
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;  
4 B) neutralizing the oil soluble alkylated salicylic acid;  
5 C) overbasing the oil soluble alkylated salicylic acid by carbonation of lime using  
6 CO<sub>2</sub> in the presence of a promoter and a surfactant;  
7 D) filtering the product of C); and  
8 E) removing solvents by distillation.

- 1 2. The process of claim 1 wherein the strong acid catalyst is anhydrous methanesulfonic  
2 acid.

- 1 3. The process of claim 1 wherein the alkylation step is carried out at a temperature in the  
2 range of from about 50 to about 200° C.

- 1 4. The process of claim 1 wherein the linear  $\alpha$ -olefin is selected from the group consisting  
2 of 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-tetracosene, and  
3 mixtures of the foregoing.

- 1 5. The process of claim 1 wherein the overbasing step is carried out in the presence of a  
2 promoter.

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1        6.        A process for producing alkaline earth metal salicylates comprising the steps of:

2                A)        alkylating salicylic acid with a linear  $\alpha$ -olefin comprising at least 14 carbon  
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;

4                B)        reacting the oil soluble alkylated salicylic acid with a previously overbased  
5 detergent selected from the group consisting of overbased alkali or alkaline earth sulfonates,  
6 phenates, or carboxylates to produce alkali or alkaline earth salicylate salts comprising varying  
7 percentages of dispersed alkali or alkaline earth carbonate salts.

1        7.        The process of claim 6 wherein the strong acid catalyst is anhydrous methanesulfonic  
2 acid.

1        8.        The process of claim 6 wherein the alkylation step is carried out at a temperature in the  
2 range of from about 50 to about 200° C.

1        9.        The process of claim 6 wherein the linear  $\alpha$ -olefin is selected from the group consisting  
2 of 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-tetracosene, and  
3 mixtures of the foregoing.

1        10.       The process of claim 6 wherein the overbasing step is carried out in the presence of a  
2 promoter.

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1 11. An alkaline earth metal salicylate produced by a process comprising the steps of:

- 2 A) alkylating salicylic acid with a linear  $\alpha$ -olefin comprising at least 14 carbon  
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;  
4 B) neutralizing the oil soluble alkylated salicylic acid;  
5 C) overbasing the oil soluble alkylated salicylic acid by carbonation of lime using  
6  $\text{CO}_2$  in the presence of a promoter and a surfactant;  
7 D) filtering the product of C); and  
8 E) removing solvents by distillation.

1 12. An alkaline earth metal salicylate produced by a process comprising the steps of:

- 2 A) alkylating salicylic acid with a linear  $\alpha$ -olefin comprising at least 14 carbon  
3 atoms in the presence of a strong acid catalyst to form an oil soluble alkylated salicylic acid;  
4 B) reacting the oil soluble alkylated salicylic acid with a previously overbased  
5 detergent selected from the group consisting of overbased alkali or alkaline earth sulfonates,  
6 phenates, or carboxylates, e.g., calcium sulfonate, to produce alkali or alkaline earth salicylate  
7 salts comprising varying percentages of dispersed alkali or alkaline earth carbonate salts.